

WO 00/75173

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CLAIMS:

1. A peptide, in substantially isolated form, which substantially includes the amino-terminal amino acid sequence: LQTPQPLLQVMM^{⑥?}EPQGD-OH (SEQ ID 1); MPQNFYKLPQM (SEQ ID 2); VLEMKFPPPPQETVT (SEQ ID 3); LKPFPKLKVEVFPFP (SEQ ID 4); SEQP (SEQ ID 5); DKE (SEQ ID 6); DPPPQS (SEQ ID 7); LNF (SEQ ID 8); VLPPNVG (SEQ ID 9); KYKLQPE (SEQ ID 10); SEEMP (SEQ ID 11); DSQPPV (SEQ ID 12); FPPPK (SEQ ID 13); VVMEV (SEQ ID 14); DLEMPVLPVEPFPFV (SEQ ID 15); LFFF¹⁵LPVVNVLP (SEQ ID 16); MQPPPLP (SEQ ID 17); DQPPDVEKPDLQPFQVQS (SEQ ID 18); VYPFTGPIPN (SEQ ID 19); SLPQNILPL (SEQ ID 20); TQTPVVVPPF (SEQ ID 21); LQPEIMGVPKVKETMVPK (SEQ ID 22); HKEMPFPKYPVEPFTESQ (SEQ ID 23); SLTLTDVEKLHLPLPLVQ (SEQ ID 24); SWMHQPP (SEQ ID 25); QPLPPTVMFP (SEQ ID 26); MHQPPQPLPPTVMFP (SEQ ID 27); PQSVLS (SEQ ID 28); LSQPKVLVPVPQKAVPQRDMPIQ (SEQ ID 29); AFLLYQE (SEQ ID 30); FLLYQEPVLGPVR (SEQ ID 31); RGPFPILV (SEQ ID 32); ATFNRYQDDHGEEILKSL (SEQ ID 33).

2. A peptide, in substantially isolated form, which substantially includes the amino acid sequence: LQTPQPLLQVMM^{⑥?}EPQGD (SEQ ID 1); MPQNFYKLPQM (SEQ ID 2); VLEMKFPPPPQETVT (SEQ ID 3); LKPFPKLKVEVFPFP (SEQ ID 4); DPPPQS (SEQ ID 5); VLPPNVG (SEQ ID 9); KYKLQPE (SEQ ID 10); DSQPPV (SEQ ID 12); DLEMPVLPVEPFPFV (SEQ ID 15); LFFF¹⁵LPVVNVLP (SEQ ID 16); MQPPPLP (SEQ ID 17); DQPPDVEKPDLQPFQVQS (SEQ ID 18).

- 25 3. A peptide, in substantially isolated form, which substantially entirely consists of the amino acid sequence: LQTPQPLLQVMM^{⑥?}EPQGD (SEQ ID 1); MPQNFYKLPQM (SEQ ID 2); VLEMKFPPPPQETVT (SEQ ID 3); LKPFPKLKVEVFPFP (SEQ ID 4); SEQP (SEQ ID 5); DKE (SEQ ID 6); DPPPQS (SEQ ID 7); LNF (SEQ ID 8); VLPPNVG (SEQ ID 9); KYKLQPE (SEQ ID 10); SEEMP (SEQ ID 11); DSQPPV (SEQ ID 12); FPPPK (SEQ ID 13); VVMEV (SEQ ID 14); DLEMPVLPVEPFPFV (SEQ ID 15); LFFF¹⁵LPVVNVLP (SEQ ID 16); MQPPPLP (SEQ ID 17); DQPPDVEKPDLQPFQVQS (SEQ ID 18).

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(SEQ ID 18); VYPFTGPIPN (SEQ ID 19); SLPQNILPL (SEQ ID 20); TQTPVWVPPF (SEQ ID 21); LQPEIMGVPKVKETMVPK (SEQ ID 22); HKEMPFPKYPVEPFTESQ (SEQ ID 23); SLTLTDVEKLHLPLPLVQ (SEQ ID 24); SWMHQPP (SEQ ID 25); QPLPPTVMFP (SEQ ID 26); MHQPPQPLPPTVMFP (SEQ ID 27); PQSVLS (SEQ ID 28);
5 LSQPKVLVPVPQKAVPQRDMPIQ (SEQ ID 29); AFLLYQE (SEQ ID 30); FLLYQEPVLGPVR (SEQ ID 31); RGPF PILV (SEQ ID 32); ATFNRYQDDHGEELKSL (SEQ ID 33).

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4. A peptide according to claim 1, 2 or 3, when obtained by a synthetic process.

5. A peptide obtained by a synthetic process, which substantially includes the amino-terminal amino acid sequence: LQTPQPLLQVMMMEPQGD (SEQ ID 1); MPQNFYKLPQM (SEQ ID 2); VLEMKFPPPPQETVT (SEQ ID 3); LKPFPKLKVEVFPFP (SEQ ID 4); SEQ P (SEQ ID 5); DKE (SEQ ID 6); DPPPPQS (SEQ ID 7); LNF (SEQ ID 8); VLPPNVG (SEQ ID 9); KYKLQPE (SEQ ID 10); SEEMP (SEQ ID 11); DSQPPV (SEQ ID 12); FPPPK (SEQ ID 13); VVMEV (SEQ ID 14); DLEMPVLPVEPFPFV (SEQ ID 15); LFFF LPVVNVLP (SEQ ID 16); MQPPPLP (SEQ ID 17); DQPPDVEKPDLQPFQVQS (SEQ ID 18); VYPFTGPIPN (SEQ ID 19); SLPQNILPL (SEQ ID 20); TQTPVWVPPF (SEQ ID 21); LQPEIMGVPKVKETMVPK (SEQ ID 22);
15 HKEMPFPKYPVEPFTESQ (SEQ ID 23); SLTLTDVEKLHLPLPLVQ (SEQ ID 24); SWMHQPP (SEQ ID 25); QPLPPTVMFP (SEQ ID 26); MHQPPQPLPPTVMFP (SEQ ID 27); PQSVLS (SEQ ID 28); LSQPKVLVPVPQKAVPQRDMPIQ (SEQ ID 29); AFLLYQE (SEQ ID 30); FLLYQEPVLGPVR (SEQ ID 31); RGPF PILV (SEQ ID 32); ATFNRYQDDHGEELKSL (SEQ ID 33).

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6. A peptide obtained by a synthetic process, which substantially includes the amino acid sequence: LQTPQPLLQVMMMEPQGD (SEQ ID 1); MPQNFYKLPQM (SEQ ID 2); VLEMKFPPPPQETVT (SEQ ID 3); LKPFPKLKVEVFPFP (SEQ ID 4); DPPPPQS (SEQ ID 7); VLPPNVG (SEQ ID 9); KYKLQPE (SEQ ID 10); DSQPPV (SEQ ID 12); DLEMPVLPVEPFPFV (SEQ ID 15); LFFF LPVVNVLP (SEQ ID 16); MQPPPLP (SEQ ID 17); DQPPDVEKPDLQPFQVQS (SEQ ID 18).

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7. A peptide obtained by a synthetic process, which substantially entirely consists of the amino acid sequence: LQTPQPLLQVMMEPQGD (SEQ ID 1); MPQNFYKLPQM (SEQ ID 2); VLEMKFPPPPQETVT (SEQ ID 3); LKPFPKLKVEVFPFP (SEQ ID 4); SEQP (SEQ ID 5); DKE (SEQ ID 6); DPPPPQS (SEQ ID 7); LNF (SEQ ID 8); VLPPNVG (SEQ 5 ID 9); KYKLQPE (SEQ ID 10); SEEMP (SEQ ID 11); DSQPPV (SEQ ID 12); FPPPK (SEQ ID 13); VVMEV (SEQ ID 14); DLEMPVLPVEPFPFV (SEQ ID 15); LFFFPLPVNVLP (SEQ ID 16); MQPPPLP (SEQ ID 17); DQPPDVEKPDLQPFQVQS (SEQ ID 18); VYPFTGPIPN (SEQ ID 19); SLPQNILPL (SEQ ID 20); TQTPVVVPPF (SEQ ID 21); LQPEIMGVPKVKETMVPK (SEQ ID 22); HKEMPFPKYPVEPFTESQ (SEQ 10 ID 23); SLTLTDVEKLHLPLPLVQ (SEQ ID 24); SWMHQPP (SEQ ID 25); QPLPPTVMFP (SEQ ID 26); MHQPPQPLPPTVMFP (SEQ ID 27); PQSVLS (SEQ ID 28); LSQPKVLVPQKAVPQRDMPIQ (SEQ ID 29); AFLLYQE (SEQ ID 30); FLLYQEPVLGPVR (SEQ ID 31); RGPFPILV (SEQ ID 32); ATFNRYQDDHGEEILKSL (SEQ ID 33).

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8. A peptide comprising: NH₂-(Ac)CLQTPQPLLQVMMEPQGD-OH (SEQ ID 34); NH₂-(Ac)CMPQNFYKLPQM-OH (SEQ ID 35); NH₂-(Ac)CVLEMKFPPPPQETVT-OH (SEQ ID 36); NH₂-(Ac)CLKPFPKLKVEVFPFP-OH (SEQ ID 37); NH₂-SEQPGGGC-OH (SEQ ID 38); NH₂-(Ac)CGVLPPNVG-OH (SEQ ID 39); NH₂-(Ac)CGGGKYKLQE-OH 20 (SEQ ID 40); NH₂-(Ac)CGGGSEEMP(amide)-OH (SEQ ID 41); NH₂-(Ac)CGGGDSQPPV-OH (SEQ ID 42); NH₂-CFPPPKGGGC-OH (SEQ ID 43); NH₂-(Ac)CGGGVVMEV-OH (SEQ ID 44); NH₂-(Ac)CDLEMPVLPVEPFPFV-OH (SEQ ID 45); NH₂-(Ac)CLFFFPLPVNLPI-OH (SEQ ID 46); NH₂-(Ac)CMQPPPLP-OH (SEQ ID 47); NH₂-(Ac)CDQPPDVEKPDLQPFQVQS-OH (SEQ ID 48); NH₂-(Ac)CGAFLLYQE-OH 25 (SEQ ID 49); NH₂-(Ac)CATFNRYQDDHGEEILKSL-OH (SEQ ID 50).

9. A peptide according to any preceding claim, for use as a medicament.

10. A peptide according to claim 9, for use in the treatment of chronic disorders of the 30 central nervous system.

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11. A peptide according to claim 10, for use in the treatment of neurological disorders and/or mental disorders.
 12. A peptide according to claim 9, for use in the treatment of dementia and/or 5 neurodegenerative diseases.
 13. A peptide according to claim 9, for use in the treatment of Alzheimer's disease and/or motor neurone disease.
 - 10 14. A peptide according to claim 9, for use in the treatment of psychosis and/or neurosis.
 15. A peptide according to claim 9, for use in the treatment of chronic disorders of the immune system.
 - 15 16. A peptide according to claim 9, for use in the treatment of diseases with a bacterial and viral aetiology, and/or for use in the treatment of acquired immunological deficiencies.
 - 20 17. A peptide according to claim 9, for use in the treatment of chronic bacterial and/or viral infections.
 18. A peptide according to claim 9, for use in the treatment of diseases characterised by the presence of β-amyloid plaque.
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19. The use of a peptide according to any one of claims 1 to 8, in the manufacture of a medicament for the treatment of chronic disorders of the central nervous system.
 20. The use of a peptide according to any one of claims 1 to 8 in the manufacture of 30 a medicament for the treatment of chronic disorders of the immune system.

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21. A method of treating disorders of the central nervous system and/or of the immune system, comprising administering a therapeutically effective amount of a peptide according to any one of claims 1 to 8 to a patient.
- 5 22. A composition comprising a peptide according to any one of claims 1 to 8, in combination with a physiologically acceptable carrier.
23. A composition comprising two or more peptides according to any one of claims 1 to 8, in combination with a physiologically acceptable carrier.
- 10 24. A composition according to claim 22 or 23, in a form suitable for injection.
25. A composition according to claim 22 or 23, in a form suitable for absorption through the mucosa of the oral/nasopharyngeal cavity and/or in a form suitable for
15 absorption in the alimentary canal.
26. A composition according to claim 22 or 23, in the form of a tablet, lozenge, gel, patch or plaster.
- 20 27. A composition according to claim 22 or 23, in a form suitable for topical application.
28. The use of a peptide according to any one of claims 1 to 8 as a dietary supplement.
- 25 29. The use of a peptide according to any one of claims 1 to 8 as a dietary supplement for babies, small children, adults who have been subjected to chemotherapy and/or adults who have suffered from cahexia, or weight loss due to chronic disease.
- 30 30. A dietary supplement comprising an orally ingestible combination of a peptide according to any one of claims 1 to 8 combination with a physiologically acceptable

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carrier.

31. An antibody which binds to a peptide according to any one of claims 1 or 8.

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a 2
con* 5 32. An antibody obtainable by using a peptide according to any one of claims 1 to 8 as an antigen.

33. A peptide containing the amino acid sequence LQTPQPLLQVMMEPQGD; DPPPPQS; and/or LFFF LPVV NVLP for use as an immunosuppressant.

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34. A peptide containing the amino acid sequence LQTPQPLLQVMMEPQGD; DPPPPQS; and/or LFFF LPVV NVLP for use in the treatment of autoimmune disorder.

35. A peptide containing the amino acid sequence LQTPQPLLQVMMEPQGD; 15 DPPPPQS; and/or LFFF LPVV NVLP for use in suppressing the rejection of transplanting organs.